AIDS TO SURGERY

PART II.

GEORGE BROWN

AIDS

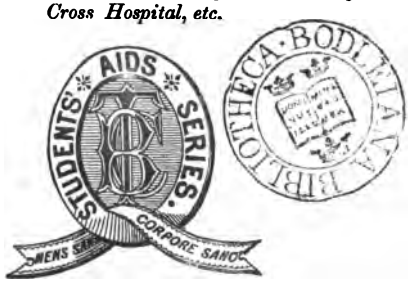
TO

SURGERY,

BY

GEORGE BROWN, M.R.C.S., L.S.A.,

Late Demonstrator of Anatomy at Westminster Hospital Medical School; Gold Medallist (1873) *Charing Cross Hospital; Late House-Surgeon at Charing Cross Hospital, etc.*



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PREFACE.

THE favourable reception which the first part of these Surgical "Aids" has received renders unnecessary any apology for presenting this second portion to the notice of the Student.

The limited space at my disposal, in order to ensure uniformity in size and price with other works of the "Aids" series, has necessitated the omission of any reference to some few surgical diseases, and I have thought it advisable to reserve the consideration of surgical operations and injuries for a separate work which I hope to prepare at some future time. Through an oversight arising from the publication of the "Aids," in small portions at a time in THE STUDENTS' JOURNAL, one disease, "Mumps," has been considered under two distinct headings, an oversight which was not discovered until too late to rectify it in the present edition.

G. B.

3, GIBSON SQUARE, ISLINGTON, N.

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AIDS TO SURGERY.

PART II.

XLVIII.—HÆMORRHOIDS, OR, PILES.

Definition.—An enlarged, or swollen and dilated, condition of the hæmorrhoidal veins, situated around the anus.

Varieties.—There are two kinds of piles recognised:—

(*a*) *External;* when the swollen veins are around the anus, external to the sphincter. As a rule, external piles do not bleed. If they do not, they are commonly called "blind" piles.

(*b*) *Internal;* when the affection is confined to the veins at the termination of the rectum, within the sphincter. This variety generally bleed freely, and are then termed "bleeding" piles.

Causes.—Sedentary occupations, habitual constipation, hepatic disease, the action of drastic purgatives, luxurious living, sitting on damp or cold seats, and anything which prevents the return of blood from the hæmorrhoidal veins, such as abdominal tumours or pregnancy.

Characters and Symptoms.—These differ according to the situation of the affection. In the *external* variety, the chief characteristics are pain and swelling at the margin of the anus. Sometimes only one vein becomes swollen; but generally the terminations of two or three veins are dilated, and in bad cases, there may be several swellings around the anus, varying in size from a small hazel-nut to a walnut. In the active or inflamed state, they are either of a bright-red or bluish colour, tense and exquisitely painful, especially when the patient attempts to walk or to sit down. In the *internal* variety, the first symptom that attracts notice is a discharge of blood when the patient goes to stool. Sometimes the amount of blood lost is small; but often it is very large, in some cases amounting to several ounces each time the patient defecates. On examination with the finger internally, one or more swellings may be felt at the lower part of the rectum; and if the patient sits over hot water, and strains, the piles may be extruded so as to be readily grasped. After straining at stool, the piles sometimes remain extruded, and being grasped by the contracted sphincter, extreme pain is caused until they are pushed back into the rectum. In bad cases, there is a feeling of heat and fulness at the lower part of the bowel, with occasional throbbing; extreme pain at and after defecation, with frequent desire to go to stool. In some cases, there is distressing tenesmus, with prolapse of the rectum; and in others, the urinary organs participate in the disease, there being much irritation at the neck of the bladder, with frequent micturition, whilst occasionally there is retention of urine.

Complications.—Fissure of the anus (*vide* Aid XXXIII. Part 1), ulcers and prolapse of the rectum, local abscesses, fistula, irritation of the urinary organs,

retention of urine; nerve pains around the loins, hips, and down the thighs.

Treatment.—This should be both local and general. In all cases the diet should be carefully regulated, plain nutritious food only being taken in moderation, and all stimulants to be avoided. The bowels must be kept gently open by means of mild laxatives, such as castor-oil, the mineral waters, confection of senna, or sulphur. In most cases, however, the best method of relieving the bowels is by the use of enemata of tepid water, by which the rectum is emptied without straining as after the use of aperients. Confection of black pepper or Ward's paste, in drachm doses three times a day is a popular remedy, but is far from an elegant one. Locally, in external piles, sponging with cold water has been recommended, but it will be found that most patients find the greatest relief from hot fomentations during the inflammatory stage; warm bread poultices also afford relief, and in other cases the application of lead lotion answers well. In extreme cases the inflammation may be subdued by the application of leeches, bleeding being afterwards encouraged by hot fomentations. In mild cases the application of the unguentum gallæ cum opio or other astringent ointment or lotion is sufficient to relieve pain. If there is suppuration, the abscess should be opened as early as possible. To ensure a radical cure excision is the only remedy. The operation is a very simple one, but it should be performed after the inflammatory symptoms have been relieved. The best method of removing external piles is by means of a pair of scissors, the tumours being drawn away from the skin with a pair of forceps, and then snipped off at the base. The subsequent bleeding may be arrested by application of cold and pressure. Internal piles should never be

excised. When an operation is necessary, they should be removed either by ligature or destroyed by the galvanic or actual cautery. Some surgeons destroy them by caustic pastes or nitric acid.

XLIX.—HERNIA, OR, RUPTURE.

Definition.—The term *hernia* signifies the protrusion or diplacement of any of the contents of one of the natural cavities. Thus, there may be hernia of the lung, of the brain, or of the intestines; but as generally used the term *hernia* or *rupture* signifies the protrusion of any of the viscera of the abdomen beyond the walls of the abdominal cavity.

Varieties.—Herniæ of the bowel are generally classified according to the situation of the protrusion thus :—

(*a*) *Inguinal*, when the bowel (or omentum) passes out of the abdominal cavity through the inguinal canal.

(*b*) *Femoral*, when the protrusion takes place through the crural canal.

(*c*) *Umbilical*, when the protrusion takes place at the umbilicus.

(*d*) *Obturator*, when protrusion takes place through the obturator foramen.

(*e*) *Ischiatic*, when the protrusion is through the sciatic foramen.

(*f*) *Diaphragmatic*, when protrusion takes place through the diaphragm.

(*g*) *Ventral*, when protrusion takes place through some portion of the anterior abdominal wall not included in the inguinal or umbilical region.

(*h*) *Perineal*, when the bowel descends in front of the rectum and forms a tumour in the perineum.

(*i*) *Labial or pudendal*, when, in women, the bowel descends outside the vagina along the ramus of the ischium, and forms a tumour in the labium.

(*j*) *Vaginal*, when, in women, the protrusion appears within the vagina.

The three first-named varieties are most common, and will be considered in detail hereafter. The others are rare, especially the three last-named. Many other terms are used to describe herniæ, the particular term depending upon some peculiarity, anatomical or pathological, thus:—*Scrotal*, when inguinal hernia has descended so far as to reach the scrotum; *congenital*, when a hernia occurs through the non-closure in the infant of the vaginal tubular process of peritoneum; *encysted* or *infantile*, when an inguinal hernia occurs in an infant in which the vaginal tubular process of peritoneum remains patent, except quite at the upper part at its junction with the abdominal cavity; *reducible* or *irreducible*, according as to whether the contents of the hernial sac can be pushed back into the abdominal cavity; *incarcerated*, when an irreducible hernia is temporarily obstructed, but not constricted, at the neck so as to check the circulation; *strangulated*, when the bowel is constricted at the neck so as to check the circulation and stop the passage of fæces; and *omental* or *epiplocele*, when the hernial sac contains omentum only. For details as to the rarer forms of hernia surgical text-books must be consulted. The scope of these articles permits only of the further consideration of the three most common varieties, viz.: inguinal, femoral, and umbilical.

Causes.—Except in the congenital varieties, rupture is usually due to strain from lifting heavy weights, straining at stool, riding, &c. In infants, rupture may arise from continuous and severe fits of coughing. The ventral variety is met with in persons who have received some injury to the abdominal wall, such as incised wounds. It often occurs in women after ovariotomy, when a proper abdominal support has not been worn.

I.—INGUINAL HERNIA.

This form of hernia is said to exist when the protruded bowel or omentum occupies part or the whole of the inguinal canal. If it has not passed through the external abdominal ring it is called an *incomplete* hernia or *bubonocele*. When it has passed through the external ring, and descended into the scrotum, it is called *complete* hernia, *scrotal* hernia, or *oscheocele*. In the female, after emerging from the external ring, it passes into the labium, and is known as *labial* or *pudendal* hernia. Excluding *congenital* and *infantile* hernia, there are two varieties of inguinal hernia, *direct* and *indirect*.

Indirect or External Inguinal Hernia escapes from the abdominal cavity, through the internal ring, *external* to the deep epigastric artery, passes along the inguinal canal in the oblique course of the spermatic cord (or round ligament in the female), and through the external ring to the scrotum, or the labium in the female.

Direct or Internal Inguinal Hernia escapes from the abdominal cavity at the point known as "Hesselbach's Triangle," *internal* to the deep epigastric artery, and

emerging from the external abdominal ring, takes the same course as the indirect variety.

The following are the coverings of inguinal hernia, oblique and direct, commencing at the surface:—

OBLIQUE.	DIRECT.
1. Skin.	1. Skin.
2. Superficial fascia.	2. Superficial fascia.
3. Inter-columnar fascia.	3. Inter-columnar fascia.
4. Cremaster muscle.	4. Conjoint tendons of internal oblique and transversalis muscles.
5. Fascia transversalis, or infundibuliform fascia.	5. Fascia transversalis.
6. Sub-serous cellular tissue.	6. Sub-serous cellular tissue.
7. Peritoneal sac.	7. Peritoneal sac.

The diagnosis between oblique and direct inguinal hernia is not difficult in the early stage, but is much more so in ruptures of long standing. The oblique variety commences as a slight swelling at the internal abdominal ring, just above the centre of Poupart's ligament, and passes downwards and inwards through the inguinal canal, towards the scrotum. In the *direct* variety, the bowel escapes from the abdominal cavity immediately behind the external abdominal ring, and at once passes downwards and inwards to the scrotum. As a rule, the tumour is more globular in the direct; that in the oblique variety is not so large, but has a wider neck.

The *seat of stricture* in inguinal hernia is usually at the internal abdominal ring.

LI.—FEMORAL HERNIA.

This form of hernia escapes from the abdominal cavity through the crural ring, and descends vertically beneath Poupart's ligament, lying at first in the sheath of the femoral vessels immediately to the inner side of the femoral vein. It then emerges through the saphenous opening and, turning upwards abruptly, rests on the fascia lata, over Poupart's ligament, the long axis of the tumour being transverse and not vertical. The *coverings* commencing at the surface are—

1. Skin.
2. Superficial fascia.
3. Cribriform fascia.
4. Femoral sheath or fascia propria.
5. Septum crurale.
6. Peritoneal sac.

The *seat of stricture* in femoral hernia is most frequently at the upper part of the crural canal at the ring, and is generally caused by the sharp border of Gimbernat's ligament. The margin of the conjoined tendon may, in some cases, cause constriction, and in others, the stricture is due to Poupart's ligament and a band of the deep crural arch. In other cases the stricture is found at the saphenous opening, and is caused by the falciform border.

LII.—UMBILICAL HERNIA.

This form of hernia, sometimes called *exomphalos* or *omphalocele*, occurs at the umbilical aperture, and is very common in children, although it is not at all rare in adults. In the adult it is most frequently met with in fat women and those who have borne several chil-

dren, although at times it is met with in men. The course of the rupture in this variety is straight through the abdominal wall. The *coverings* commencing at the surface are:—

1. Skin.
2. Superficial fascia.
3. Prolongation from tendinous margin of the aperture.
4. Fascia transversalis.
5. Hernial sac derived from the parietal peritoneum.

When *congenital*, the hernia is due to a dilatation of the umbilical cord. When strangulation takes place the stricture is caused by the firm margin of the umbilical ring. In the adult this form of hernia sometimes attains a large size; nearly the whole of the intestines, and other abdominal viscera, in some cases finding their way out at the umbilical opening.

LIII.—TREATMENT OF HERNIA.

In all cases the rupture should, if possible, be reduced, and a well-fitting truss be worn, except when the patient is in bed. In children, the habitual use of the truss often effects a complete cure. In umbilical hernia in infants, a pad carefully fastened over the umbilical opening, and worn for some months, is generally sufficient to effect a cure. In bad and neglected cases a slight operation, consisting in the removal of a portion of the skin by means of a ligature, expedites recovery, the pad being worn for some time after the operation.* In strangulated hernia, attempts at reduction should be made as early as possible, by means of taxis, that is,

* The Author has seen this method practised with success.

by careful manipulation, the pressure being directed towards the aperture from whence the bowel emerged. If taxis fails at first, a full dose of opium may be given, the patient placed in a warm bath, and the taxis again applied; or, chloroform should be administered and taxis used without employing force. A bladder of ice placed over the tumour for an hour or two sometimes assists the means employed for reduction. When it is found that taxis has no effect, as regards reducing the size of the tumour, no time should be lost in performing herniotomy, according to the principles laid down in surgical text-books. In suitable cases, the radical cure of inguinal hernia may be effected by means of the operation suggested by Professor Wood. In femoral hernia the operation for radical cure is less successful.

LIV.—HERPES PREPUTIALIS.

Definition.—An affection characterised by the appearance of a crop of herpetic vesicles around the corona of the glans penis, or upon the external or internal surface of the prepuce.

Symptoms.—Heat of the part and considerable irritation. The vesicles contain thin watery fluid and readily burst. Sometimes ulceration takes place, but, as a rule, if cleanliness be observed, the parts become dry, and heal in a few days.

Treatment.—Cleanliness, and the application of sulphate of zinc lotion, four grains to the ounce; or a weak solution of nitrate of silver, four or five grains to the ounce, may be used occasionally. A saline aperient should also be given.

[Note.—This affection is often mistaken for venereal disease.]

LV.—HORDEOLUM, OR STYE.

Definition.—A hard and painful swelling on the margin of the eyelid.

Causes.—These swellings arise from an inflamed condition of the ciliary follicle, due in most cases to defective nutrition, and always occur in weak and scrofulous persons, and generally in childhood.

Treatment.—Locally, hot fomentations and poultices, to promote suppuration, and as soon as pus has formed, the little tumour should be punctured. Such a condition points to the necessity of good diet and out-door exercise, and general constitutional treatment by means of ferruginous tonics and cod-liver oil.

LVI.—HOSPITAL GANGRENE, OR SLOUGHING PHAGEDŒNA.

Definition.—A condition characterised by rapidly spreading sloughing ulceration of wounded or injured parts, occurring in hospital or infirmary patients.

Causes.—Want of cleanliness in the treatment of suppurating wounds, overcrowding, and general disregard of sanitary laws, are invariably the exciting causes of this condition. Formerly this disease was very common; but of late years, since greater attention has been paid to hospital hygiene, it is almost unknown.

Characters and Course.—As a rule, the first thing observed is a vesicle at or near the margin of the wound, or on the injured part. The base of the vesicle soon begins to ulcerate, turning into a greyish slough, which spreads rapidly over the whole surface of the wound, and attacks the adjacent tissues. There

is considerable pain and inflammatory action and marked fœtor. In extreme cases the ulcerative process permits free hæmorrhage to occur,—typhoid symptoms supervene, and the patient dies exhausted. In favourable cases the ulcers do not spread, and the sloughs are thrown off, presenting a healthy surface.

Treatment.—Patients attacked with this affection must be separated from other patients, and placed in a well-ventilated room or ward, through which a free current of air passes. Locally, antiseptics should be employed. All sloughs and putrescent matter must be removed by means of the scalpel, or scissors and forceps. To prevent the spread of the disease and induce healthy action, the free application of pure nitric acid is probably the best remedy. The application of pure bromine and of the actual cautery are also recommended. Constitutional treatment is very important. Good light diet with a moderate quantity of stimulants should be given, and tonic medicines, (iron, quinine, &c.). Opium or chloral may be given if there is much pain or sleeplessness.

LVII.—HYDROCELE.

Definition.—A collection of serous fluid in close connection with the testicle or spermatic cord.

Varieties.

(*a*) *Vaginal Hydrocele;* when the fluid is contained in the tunica vaginalis of the scrotum.

(*b*) *Congenital Hydrocele;* when in infants the fluid is contained in the tunica vaginalis of the scrotum, and a communication exists between the sac and the abdominal cavity in consequence of the tubular prolongation of the peritoneum remaining unobliterated.

(*c*) *Encysted Hydrocele;* when the fluid is contained in a cyst projecting from the epididymis or testis, and not communicating with the tunica vaginalis.

(*d*) *Hydrocele of the cord;* when the fluid is contained in a sac situated on some portion of the spermatic cord, either in or below the inguinal canal.

Causes.—Except in the congenital variety, the cause is generally obscure. Occasionally it is traced to a blow or strain, or to an attack of orchitis. Whatever the exciting cause may be, the secretion of fluid in vaginal hydrocele is due to some inflammatory affection of the serous membrane. In the congenital variety, whether of the cord or of the scrotum, the fluid gravitates into the part from the abdominal cavity, and as long as the communication remains open, it can be pressed back into the abdomen.

Diagnosis.—Vaginal hydrocele has to be distinguished from scrotal hernia, hæmatocele, and cystic disease of the testicle. Occasionally, hydrocele and hernia co-exist, when the diagnosis is very difficult. The tumour in hydrocele is generally pyriform in shape, smooth in outline, fluctuates on palpation, is free from pain and tenderness, terminates (except in rare cases) at the external abdominal ring, cannot be reduced (except in the congenital variety), is translucent unless the fluid is thick, bloody, or opaque. Hydrocele may exist with enlargement of the testicle, when translucency may not be observed. The history of the case is important. In hydrocele, the swelling commences below in the scrotum, and ascends to the groin, whilst in hernia, the swelling first appears in the groin, and upper part of the scrotum. In hydrocele, the tes-

ticle lies at the back of the scrotum with the fluid below and in front, whilst in hernia, the testicle lies at the lower part of scrotum below the hernial sac. In cystic disease of the testicle, the fluctuation is limited to one portion of the tumour, whilst in hydrocele it is present all over the swelling. The translucency of hydrocele is generally sufficient to distinguish it from hæmatocele, but in doubtful cases a puncture with a fine trocar will decide the point.

Treatment.—The treatment of vaginal hydrocele may be *curative* or *palliative*. The palliative treatment consists of simply tapping the hydrocele with a fine trocar and canula, and drawing off the fluid. In a few months, the sac will become refilled with fluid, and tapping must be repeated. Various methods have been recommended for the radical cure of hydrocele. The most simple, and the one generally adopted, is to draw off the fluid by tapping, and then inject through the canula, a mixture of about equal quantities of tinct. iodine and water. Inflammation ensues, usually resulting in radical cure. Other fluids are sometimes injected, as port-wine, solution of sulphate of zinc and warm water. When injecting the sac fails, the seton or free incision may be resorted to, but the cases are rare in which these are necessary. *Hydrocele of the Cord* may be treated as vaginal hydrocele, but in this variety the seton will be found very successful. In *Congenital Hydrocele*, active measures are seldom necessary, the application of cooling lotions to the scrotum being generally sufficient to effect a cure. Occasionally it is necessary for the child to wear a truss for a time, in order to obliterate the communication between the scrotum and the abdominal cavity.

LVIII.—HYDROPS ARTICULI, OR, HYDRARTHROSIS.

Definition.—A swollen condition of a joint arising from excessive accumulation of fluid. Most common in the knee-joint, and is usually known as "dropsy of the joint."

Causes.—Chronic synovitis resulting from injury, rheumatism or osteo-arthritis.

Treatment.—Absolute rest to the joint; application of back splint in case of knee-joint, blisters and counter-irritations by means of iodine and other liniments. Scott's dressing often answers well, as also does strapping the joint with mercurial plaster. Iodide of potassium and tonics to be given internally. In extreme cases the joint may be tapped by means of the aspirator.

LIX.—IRITIS.

Definition.—Inflammation of the iris.

Varieties and Causes.—Three varieties of iritis are given, classified according to their causes.

(*a*) *Simple iritis*, from irritation of foreign bodies in the conjunctival sac, or on the cornea; blows, friction of the cornea by granular lids or inverted eyelashes, or general debility after acute illness.

(*b*) *Rheumatic arthritis*, met with in persons who are the subjects of attacks of rheumatism and gout.

(*c*) *Syphilitic iritis*, as met with in persons the subject of hereditary or acquired syphilis.

Characters and Symptoms.—This affection is characterised by great pain in the eye and intolerance

of light; a zone of pink or violet vessels forms around the cornea, the pupil becomes diminished in size, and sometimes irregular in shape, and loses its mobility, the iris changes its colour to brown or greyish green. The aqueous humour also assumes a muddy appearance. In bad cases, lymph is effused in the structure of the iris, the surface of which acquires a rusty or nodular appearance, and adhesions either between the iris and cornea, or between the iris and lens-capsule (synechiæ), take place. In rheumatic iritis, the patient is likely to have a frequent recurrence of the attack. In syphilitic iritis, the symptoms generally are more marked and severe, and frequently the surface of the iris becomes dotted with minute nodular excrescences of a dirty yellow colour, called lymph nodules. The patient's history is important in the diagnosis of syphilitic iritis.

Results.—If proper and prompt treatment be adopted, perfect recovery generally takes place. In severe and neglected cases, the results may be atrophy of the iris, anterior or posterior synechiæ, closure of the pupil, or capsular cataract.

Treatment.—First remove the local cause if any be present, then endeavour to relieve the pain by belladonna fomentations and the administration of sedatives. The pupil to be kept dilated by means of solution of atropia. The patient should be kept in a darkened room, or wear a shade. If there is much pain, leeches should be applied to the temples. In severe cases, mercury with opium (2 grains of blue pill with ¼ grain of opium three times a day) should be given, care being taken not to proceed to salivation. In debilitated persons, iron and quinine with cod-liver oil are indicated in rheumatic iritis, colchicum and iodide of potassium

are valuable. If adhesions interfere with vision, or closure of pupil results from iritis, the performance of iridectomy is necessary.

LX.—KELOID, OR, CHELOID.

Definition.—A hard smooth tumour, of a red or pinkish colour, usually growing from the surface of a cicatrix.

Characters.—The keloid tumour first appears on the surface of the scar as a smooth hard nodule or tubercle, at first of red or pinkish colour, but becoming paler as it increases in size. The cicatrices of burns are the most frequent seat of these growths. Sometimes cases are met with in which an indurated and tubercular condition of the skin and subcutaneous tissue occurs, not associated with a cicatrix. This is termed "true cheloid."

Treatment.—Should be left alone unless they grow to a large size, when excision is necessary, but the growth frequently returns after such operations.

LXI.—KERATITIS, OR, CORNEITIS.

Definition.—Inflammation of the cornea.

Varieties and Causes.—Five different forms of corneitis are generally recognised:—

(*a*) *Simple*, arising from injury, or the lodgment of foreign bodies on the surface of the cornea.

(*b*) *Interstitial* or *Parenchymatous*, a more severe and chronic form arising from hereditary syphilis.

(*c*) *Pustular* or *Phlyctenular*, characterised by the presence of small grey pustules on the surface of the cornea, and usually met with as a sequel of measles, scarlatina, or other acute disease, and almost invariably in children of a scrofulous diathesis.

(*d*) *Keratitis Punctata;* a form sometimes met with in young adults, and characterised by the development of numerous grey opaque spots on the surface of the cornea.

(*e*) *Suppurative Corneitis*, when the inflammation is of such a severe character that it proceeds to suppuration and sloughing of the tissues. Usually the result of a severe blow on the cornea, or the presence of foreign bodies, or may follow the operation for cataract.

Symptoms.—Severe pain of the affected eye and of the head, intolerance of light, haziness and increased vascularity of the cornea, both the vessels on the surface and those in the structure of the cornea being dilated and injected. In interstitial keratitis of the cornea, the inflammation is of a more severe character, and opaque spots soon form on the cornea which, sometimes, cover its whole surface and run together, giving it a "ground glass" appearance.

Treatment.—Foreign bodies and sources of irritation to be removed, the eyes to be bathed with a lotion made with extract of belladonna (six to ten grains to the ounce). In suppurative corneitis, the lotion may be used warm, or decoction of poppy-heads to be used as a fomentation; in case of severe pain, leeches to be applied to the temples. Simple corneitis usually yields to local treatment, but the other forms require

constitutional remedies. In interstitial corneitis, mercury must be given; and in other forms, steel and other tonics with cod-liver oil.

LXII.—LIPOMA.

Definition.—The technical name of the fatty tumour.

Pathology.—The lipoma, or fatty tumour, is identical in structure with healthy fatty tissue, but is usually enclosed in a fibrous capsule, from which it receives its blood supply. Septa proceed from the capsule, which divide the tumour into lobules. The surface of the tumour is smooth and rounded. When examined under the microscope it is found to consist of large polygonal fat cells, crowded together in meshes of areolar tissue. In some cases, the growth is not encapsuled, but "continuous" or "diffused," as occasionally seen in the large double chin of adults. In these cases, the growth consists of small dense lobules of fat aggregated together. The most favourite seat of lipomata is the shoulder, thigh, and trunk.

Diagnosis.—Not difficult, unless situated deep among the muscular structures. When subcutaneous, they are lobulated and encysted, and not likely to be mistaken for cancer or any other growth.

Treatment.—Best left alone, unless the tumour is unsightly or is growing to a large size. It may then be removed easily with the knife. This applies to the encysted tumour only. The "continuous" or "diffused" lipoma should not be removed except under urgent circumstances, or in the case of children, when the tumour is of small size.

LXIII.—LIPOMA OF NOSE.

Definition.—An overgrowth of the cellular tissue, and skin at the end of the nose.

Characters.—The enlargement may be general at the tip and alæ of the nose, or may be limited only to a portion of the nose. In the latter case, the swelling or swellings are pendulous and lobulated. The growth has usually a purplish hue, from congestion of the capillaries and enlargement of the venous radicles. The disease is of slow growth; but in some cases the growth reaches a great size, and is then very unsightly.

Treatment.—If any treatment is necessary or desired, nothing but removal with the knife can be suggested. There is no difficulty or danger about the operation; but the dissection should be proceeded with very carefully, and the cartilages must not, on any account, be interfered with.

LXIV.—LUPUS EXEDENS.

Definition.—A disease characterised by persistent tuberculous ulceration of the skin, and which most commonly attacks the tip of the nose.

Characters, &c.—Commences as a small, dull red hemispherical papule, which, joining with other similar papules, forms a tubercle, having at first a smooth surface, but ulceration soon commences, and an unsightly sore is formed. Unless treated, the disease gradually spreads, destroying the skin and deeper tissues, sometimes extending to the cavities of the mouth and nares, and attacking the bones, giving rise to great deformity.

Treatment.—This should be both constitutional and local. Cod-liver oil, iron and quinine, with small doses

of arsenic, are the best remedies. Locally, caustics should be freely applied, the best being potassa fusa, or chloride of zinc, mixed with an equal quantity of flour, nitric and carbolic acids, or the Vienna paste (equal parts of quick lime and potassa cum calce with a little spirits of wine.) But the most effective local treatment is the galvano-cautery, if the patient will consent to its use, by which all the diseased tissues can be, in most cases, destroyed at one sitting.

LXV.—MEDULLARY CANCER (ENCEPHALOID OR, SOFT CANCER).

Definition.—A form of cancer characterised by softness, rapidity of growth, and when fully developed, consisting chiefly of brain-like material.

Situation.—The tissues most frequently attacked are the periosteum and bone—more especially the bones of the head and face—the eye, tonsil, testis, ovary, uterus, and lymphatic glands.

Characters.—Usually commences as a soft, smooth, and deep-seated swelling, forming a tumour which is elastic, and often feels as if it contained fluid. If punctured, blood or a little creamy juice only escapes, which, if examined under the microscope, is seen to consist chiefly of cells and nuclei. The surface of the swelling is generally smooth and uniform, but at times is nodular and lobulated. The skin over the swelling is usually traversed by numerous large and dilated veins. As the tumour grows, the skin becomes implicated, and often the cancerous mass bursts through the skin in the form of large fungoid protrusions, the surface of which bleeds freely. When the growth presents this appearance, it is termed "fungus hæmatodes."

Pathology.—The material composing this form of cancer, to the naked eye, presents a brain-like appearance, very like fœtal brain, or adult brain substance partially decomposed and crushed. Many specimens are softer than brain substance. In others, the bulk of the growth is pulpy, shreddy, or spongy, like a placenta, with fine soft filaments. When pressed or scraped, the growth yields abundant "cancer juice," which, under the microscope, is found to consist chiefly of cells, irregular in outline, imperfectly formed, loosely arranged, suspended in the juices of the growth, or enclosed within its delicate connective tissue.

Treatment.—Same as for cancer generally. When situated in an organ or part which admits of removal, the disease should be excised as early as possible. When this cannot be done, the disease must be attacked with caustic applications, such as strong acids, caustic potash, or chloride of zinc. By these agents, the disease may at times be totally destroyed. When removal or destruction of the growth cannot be attempted, the patient's sufferings may be relieved by applications of belladonna or opium, and the internal administration of sedatives.

LXVI.—MELANOSIS, MELANOID, OR, MELANOTIC CANCER.

Definition.—A form of medullary cancer characterised by the presence of pigmentary matter which gives the growth a black appearance, and hence is known as "black cancer."

Situation.—Always grows from a part which naturally contains pigment, such as the choroid coat of the eye or the skin. The commonest seat of origin is a cutaneous mole.

Characters.—Closely resembles medullary cancer in its general characters, but when originating in the skin, often presents the peculiarity of rapid multiplication. In some cases, the skin and subcutaneous tissue of the parts attacked rapidly become studded with melanoid growths of all sizes and shades of colour.

Treatment.—Same as Medullary Cancer.

LXVII.—MENINGOCELE.

Definition.—An abnormal condition of the head, in which the membranes of the brain protrude through the skull.

Causes.—Occurs in infants as a congenital affection, and arises from some deficiency in the bones of the skull, the most frequent seat of deficiency being the occipital bone.

Treatment.—As a rule, this condition is best left to nature. As the bones ossify, the opening through which the tumour protrudes may close, the tumour being left external and wholly separated from the intracranial contents. When this occurs, the resulting cyst may be excised if small, or injected with iodine if of large size.

LXVIII.—MOLLITIES OSTIUM. (MALACOSTEON, OSTEOMALACIA).

Definition.—A general morbid condition of the system characterised by a soft and flexible condition of the bones.

Causes.—The pathological cause of this disease is unknown, but is chiefly met with in persons who have

been subject to prolonged depressing influences. It is a disease of adult life, (in this respect differing from rickets), and is chiefly met with in women, repeated pregnancy being apparently a predisposing cause. About 90 per cent of the cases occur in women.

Characters and Symptoms. — The earliest symptom of the disease is pain of an obscure character, simulating rheumatism very closely. The pain is deep-seated, increased on pressure or by motion, sometimes wandering, at others fixed to a particular spot, but spreading subsequently to other parts. In addition to the pain, in the early stage of the disease, the patient complains of lassitude and general feeling of weakness. Subsequently, symptoms associated with the softening and absorption of the bones appear, which give rise to deformity of the spine or pelvis, and distortions or fractures of the bones generally, arising from flexibility and fragility. The urine in these cases is highly charged with phosphates and lime salts.

Pathological Changes.—The pathological changes in the bones are very marked. At first, there is highly increased vascularity; the bony matter then becomes more opaque and less uniform than natural, and sometimes irregularly granular. The laminæ of the Haversian system appear to be fused together, and the Haversian canals surrounded by a ring of animal matter ultimately becoming disintegrated and absorbed. Thus the Haversian system becomes destroyed, and the bone presents a hollowed-out porous appearance, the spaces in the interior of the bone being filled with a peculiar gelatinous and oily substance.

Prognosis.—Bad. Death generally takes place from exhaustion, but rarely recovery is said to take place.

Treatment.—The general health to be supported by good food, warmth and rest. Cod-liver oil should be given, but the administration of lime salts is said to do more harm than good.

LXIX.—MUMPS, OR, PAROTIDITIS.

Definition.—An inflammatory swelling of the parotid gland or glands, of an infectious character, and usually met with in children.

Causes.—Cold and damp, and often the result of infection. The suppurative inflammation of the parotid and adjacent glands, which at times occurs as a sequel of scarlet fever, must not be confounded with mumps.

Symptoms.—The first symptoms are pain and stiffness of the sides of the neck, followed by swelling in the parotid region. The pain is increased on attempting mastication, and deglutition is performed with difficulty. The swelling at times increases to great size, but rarely proceeds to suppuration. A peculiarity of this affection is that, occasionally, the inflammation of the parotid gland suddenly subsides and, by metastasis, attacks some other gland, generally the mammary gland in the female, or the testicle in the male.

Treatment.—Locally, hot fomentations or poultices frequently renewed, followed by stimulating embrocations. Medicinally, saline aperients should be given at first, and afterwards, tonics.

LXX.—NÆVUS, TELANGEIECTASIS, OR, ANGEIOMA.

Definition.—A dilated condition of the capillary blood-vessels, usually congenital, giving rise, when

cutaneous, to red, blue, or purple colouration of the skin, and commonly known as "mother-marks."

Varieties.—Nævi may be divided into different classes, either as regards the situation of the diseased capillaries, or according as the *arterial* or *venous* capillaries are most affected, thus :—

(*a*) *Cutaneous.* When the capillaries of the cutaneous tissue only are involved.

(*b*) *Subcutaneous.* When the capillaries of the subcutaneous cellular tissue only are involved.

(*c*) *Mixed.* When the capillaries of both tissues are involved.

(*d*) *Arterial.* When the arterial capillaries are chiefly affected.

(*e*) *Venous.* When the venous capillaries are chiefly affected.

Cutaneous nævi, which contain pigmentary cells in abundance, form a distinct class, and are called "moles."

Characters.—These differ according to the variety of the nævus. In the cutaneous variety, which is the most common, the skin at the affected part is discoloured, the shade varying in different cases from a bright red to purple or blue. They most commonly occur on the head or face, and vary in size from a mere point to the circumference of a crown, and in some cases, such as the "port-wine mark" form of nævus, an extensive surface becomes affected. The surface is usually flattened, but raised somewhat above the surrounding skin. In the subcutaneous variety, the skin is not discoloured, but the dilated vessels can be felt and often seen beneath the skin. The vessels are sometimes much dilated, forming a dis-

tinct tumour, which is soft, compressible, and painless, and sometimes is found distinctly to pulsate. When pulsation can be felt, it shows that the arterial capillaries are chiefly affected. The arterial nævus is of a brighter red than the venous. On exertion, crying or any excitement, the vascular distension is increased. Some nævi increase in size rapidly if left alone, others remain stationary, and, occasionally, spontaneous cure takes place, preceded by degenerative changes. Occasionally they ulcerate or slough, or undergo cystic degeneration. An arterial nævus, when large, with free anastomosis of vessels, is called an "aneurism by anastomosis." (See Aid XII. Part I.). Pigmentary nævi, or "moles," are less vascular than the other forms, and are less rapid in growth. They are not liable to ulcerate, slough, or undergo cystic degeneration, but are said to have a tendency to develop into cancerous disease of the melanotic variety.

Treatment.—If of small size and in such a situation as not to be unsightly or an inconvenience, nothing need be done, as spontaneous cure will, probably, take place after a time. If it grows rapidly, or is unsightly, or causes inconvenience, operative interference is necessary. In the cutaneous variety, one or two applications of strong nitric acid or potassa fusa suffice to cure. The hot iron and galvanic cautery are very effective in the cutaneous and mixed varieties. In the subcutaneous form, strangulation of the tumour by means of ligature, applied subcutaneously, is the best treatment. If encapsuled, complete excision may be performed. Treatment by injection of perchloride of iron has been recommended, but this is very dangerous if the nævus is situated on the head or face, as embolism is liable to occur, and some rapidly fatal cases have been recorded. In diffused nævi, the use of the

seton is recommended. Large nævi of this kind may be cured by the introduction of several setons steeped in solution of perchloride of iron. Vaccination has been recommended for the cure of small nævi, but is seldom attended with satisfactory results. In the "port-wine mark" variety, linear scarification has been recommended; but as yet, the results of surgical treatment of this form of the affection have not been very encouraging.

LXXI.—NECROSIS.

Definition.—Death of bone in mass.

Causes.—Acute and chronic inflammation of the bone, periostitis occurring spontaneously, or the result of injury, frost-bite, and severe burns. Constitutional causes are, scrofula, syphilis, excessive use of mercury, and generally debility from fever or scrofula. Lucifer match makers are subject to necrosis of the jawbones from the effects of the phosphorous fumes.

Symptoms.—Necrosis being most frequently the result of inflammatory conditions, the first symptoms are those of acute local inflammation, viz., pain, tenderness, œdema, followed by suppuration. The local inflammation having destroyed the vitality of the bone, the portion of dead bone acts as a foreign body and keeps up inflammatory action until it has entirely separated from the healthy bone, and been removed. The portion of bone destroyed depends upon the extent of the inflammation; at times only a thin scale of bone exfoliates, at others a large portion, or even the whole, of the shaft of a long bone is destroyed. Continued suppuration always accompanies necrosis, and continues until the whole of the dead bone has been thrown off or removed.

Treatment.—Medical treatment must vary with the condition of the patient, according as to whether scrofula, syphilis, or debility, has to be combated. In these cases, diet should be generous, and absolute rest enjoined. Locally, the treatment must be expectant until the work of separation of the dead bone is completed, and may consist of poulticing, application of stimulating lotions, or carbolic oil, as may be most soothing to the patient. When the dead bone is loose, the sooner it is removed the better, although this is often a matter of some difficulty, as it becomes embedded in newly-formed bone. When the necrosis is extensive and approaches near the joint, amputation is sometimes necessary.

LXXII.—NODES.

Definition.—A circumscribed swelling of an inflammatory character, situated on the surface of a bone, and affecting the periosteum and adjacent tissues.

Causes.—Although a node may result from periostitis arising from injury or rheumatism, by far the most frequent cause is syphilis.

Symptoms and Course.—Local pain and tenderness are the primary symptoms of the formation of a node, followed by swelling, which slowly and gradually increases (unless checked by treatment). After a time the tissues covering in the node become œdematous, the skin becomes red, and, probably, fluctuation may be detected, showing that suppuration has taken place. After the abscess bursts, or is opened, it is usually found that the bone beneath has become necrosed.

Treatment.—Repeated applications of tincture of iodine in the early and chronic stage; if painful and inflamed, fomentations and poultices. Internal treat-

ment is most important, and iodide of potassium the most useful drug. As a rule, it is unwise to open a suppurating node whilst any hope of absorption remains. Other treatment, as in syphilis, when there is a history of this disease, and if the bone is necrosed it must be treated accordingly.

LXXIII.—NOMA.

Definition.—A condition occasionally met with in badly-fed and neglected female children, characterised by phagedænic ulceration of the vulva.

Causes.—Extreme debility, privation, dirty habits.

Symptoms.—Commences with swelling and inflammation of the superficial tissues, which soon ulcerate, the ulceration rapidly spreading in a gangrenous manner in spite of treatment. The constitutional symptoms are sometimes severe, and there is always great prostration.

Treatment.—Tonics, liberal nourishing diet, wine, &c. Locally, carbolic acid or lead lotion; or if the ulceration is spreading, strong carbolic acid, nitric acid, nitrate of silver, or the galvanic cautery.

LXXIV.—ONYCHIA.

Definition.—An inflammatory disease of the matrix of the nail, usually accompanied by ulceration.

Varieties.—Two, simple and malignant or specific.

Causes.—Injuries to the nail and parts adjacent, such as a prick or squeeze in persons out of health. Commonly met with in scrofulous or badly fed children. The malignant variety usually occurs in syphilitic or scrofulous persons.

Symptoms.—Simple onychia commences as a red, painful swelling at the matrix of the nail; pus soon forms which find its way to the surface; the nail becomes loose and shrivelled, and is gradually thrown off, being replaced by a new but generally imperfect one. The malignant variety commences in the same manner, but the parts around and underneath the nail ulcerate, discharging a sanious and often fœtid fluid; the nail turns black, becomes loose and falls off, or turns up at the edges, remaining partially attached. After a time large flabby granulations spring up on the ulcerated surface, and the end of the finger or toe becomes enlarged and "clubbed." In severe cases, the ulceration may extend so deeply as to expose the terminal phalanx.

Treatment.—In simple cases, the local application of poultices or water dressings, with the internal exhibition of tonics, and well regulated diet, are sufficient to effect a cure. In obstinate cases, the nail should be removed and some stimulating lotion applied. In the malignant variety, after the nail has been removed, the free application of lunar caustic is advisable, the parts being afterwards dressed with black wash or other mercurial lotion. The application of powdered nitrate of lead to the ulcerated surfaces is highly recommended, and powdered iodoform has also been used successfully. In cases having a syphilitic origin the usual constitutional treatment must be adopted.

LXXV.—OPHTHALMIA.

Definition.—Inflammation of the conjunctiva.

Varieties.—

(*a*) Simple ophthalmia, sometimes called conjunctivitis.

(*b*) Catarrhal ophthalmia.
(*c*) Purulent ophthalmia.
(*d*) Gonorrhœal ophthalmia.
(*e*) Phlyctenular ophthalmia.
(*f*) Granular ophthalmia.
(*g*) Diphtheritic ophthalmia.
(*h*) Chronic ophthalmia.

Causes.—Cold, exposure to draughts, irritation of foreign bodies in the eye, injuries, contagion, inoculation with purulent discharge of gonorrhœa, scrofula, neglect, &c.

Symptoms.—These vary according to variety of the affection.

In *simple ophthalmia* the ocular and palpebral conjunctivæ, but chiefly the former, are red, and the patient complains of some pain and pricking sensation as if there were something between the eye-ball and the lids. There is intolerance of light and a slightly increased secretion of tears.

In the *catarrhal* variety the conjunctivæ are more inflamed than in the simple variety, and are more or less swollen—sometimes much swollen *(Chemosis)*—and there is a yellowish discharge. Occasionally, there are small extravasations of blood in the ocular conjunctiva.

In *purulent ophthalmia* the symptoms resemble those of the catarrhal form, but they are more severe, and the discharge of pus, which is very thick and yellow, is much more copious. When purulent ophthalmia occurs in newly-born infants, as often happens, it is called *ophthalmia neonatorum*. In bad cases of pustular ophthalmia, sloughing of the cornea often takes place.

Gonorrhœal ophthalmia is a form of purulent ophthalmia arising from direct inoculation with the pus dis-

charged in gonorrhœa, and is very severe in character. Sloughing of the cornea is more likely to occur in this form than in the non-specific forms of purulent ophthalmia.

Phlyctenular ophthalmia is very commonly met with in scrofulous children, and is characterised by irregular vascularity of the ocular conjunctiva, and the centre of each patch is raised, forming a minute pustule, and a number of these pustules form around the margin of the cornea. There is much lachrymation and very little secretion of pus, and in most cases, great intolerance of light (photophobia).

Granular ophthalmia is met with in the poor and badly-nourished, and is characterised by the formation of little granular bodies on the surface of the palpebral conjunctiva. These cause much irritation of the surface of the eye, and in cases of long-standing the constant friction of the rough surfaces of the lids causes an opaque and vascular condition of the cornea, known as *pannus*.

Diphtheritic ophthalmia is very rare. It is characterised by solid infiltration of the conjunctiva, and frequently the formation of diphtheritic membrane on the surface of the eye which, when the cornea is affected, sometimes destroys the sight.

Chronic ophthalmia usually results from one of the acute forms of the disease when neglected or badly treated. The conjunctivæ are reddened and slightly thickened, as also are the edges of the eye-lids.

Treatment.—Simple acute ophthalmia generally gets well in a few days if the eyes are kept shaded, and a mild astringent lotion (sulphate of zinc or alum, two or three grains to the ounce), be dropped into the affected eye, or eyes, frequently. Foreign bodies in the eye, and all sources of irritation

to be removed. Warm fomentations of poppy-heads, or belladonna leaves, are very useful if there is much pain. The eye-lids to be smeared at bed-time with some soothing ointment, such as the diluted nitrate of mercury ointment. Saline aperients to be given, if necessary, and the general health to be attended to. The treatment above indicated applies generally to all forms of ophthalmia, but some of the special forms require special treatment. Thus, in phlyctenular ophthalmia, a little calomel should be dusted into the eye, or a small quantity of yellow oxide of mercury, (16 grains to the ounce), be applied to the inner surface of the eye-lids daily. In purulent ophthalmia, frequent cleansing and attention, with astringent lotions, are necessary. As the swelling of the eye-lids often prevents the application of the lotion, it should be used with a small syringe every half-hour or hour. If the ordinary zinc or alum lotion fails, the surgeon should himself use a lotion of nitrate of silver containing about three grains to the ounce. The same local treatment applies to gonorrhœal ophthalmia. In granular ophthalmia, the object of treatment is to destroy the granulations, which may be accomplished by the persistent daily use of solution of sulphate of copper, or the careful application of sulphate of copper or nitrate of silver in the solid form. Diphtheritic ophthalmia is best treated by poppy-head or belladonna fomentations.

LXXVI.—ORCHITIS, EPIDIDYMITIS, AND TESTITIS.

Definition.—Under the term *orchitis* are generally included all inflammatory conditions of the structures within the scrotum; but strictly speaking, it should be used when the testicle only is affected. When, as often

occurs, the epididymis only is inflamed, the term *epididymitis* should be used, whilst the term *testitis* is used when both the testicle and epididymis are affected.

Varieties.—There are two chief varieties of orchitis, acute and chronic, but some authors make a further classification according to the cause of the disease, as *syphilitic, tubercular*, and *gouty* orchitis.

Causes.—Injuries, gonorrhœa, parotiditis, syphilis, tubercle, and gout, the three last named causes usually giving rise to the chronic form of the disease.

Symptoms.—

(*a*) *Acute* (including *epididymitis*). There is considerable local pain and exquisite tenderness, accompanied by a feeling of heat and swelling. In epididymitis, the swelling and tenderness are confined to the seminal duct, at the upper and back part of the testicle; and this is the usual condition when the inflammation is a consequence of gonorrhœa, although occasionally the inflammation proceeds by extension to the testicle. In all cases, there are also severe pains of the back, loins, and perineum, and often considerable constitutional disturbance, with fever, nausea, and vomiting.

(*b*) *Chronic.* The chief symptom is swelling, which comes on in a slow insidious manner, giving rise to but little pain or tenderness. When there is pain it is of a dull, aching character. In most cases, the swelling is confined to the body of the testis, which becomes very hard, and very considerable pressure can be borne without causing much pain.

Complications and Sequelæ.—When early and proper treatment is adopted, acute orchitits and epididymitis should terminate in resolution, leaving the organ intact; but in rare cases, the inflammation proceeds to suppuration, and even sloughing. Both in the acute and chronic forms, effusion of fluid in the tunica vaginalis often takes place, giving rise to a hydrocele, but the condition disappears when the original disease is cured. In some cases, obstruction of the seminal duct takes place, and occasionally, more especially after chronic orchitis, the seminiferous tubuli become destroyed, and atrophy of the gland follows.

Treatment.—In the acute form, rest in bed should be insisted upon. Locally, hot fomentations generally afford much relief, although in some cases, cold lead lotion answers better. If these fail, leeches should be applied to the inflamed scrotum, or local venesection may be performed with the lancet. Saline aperients should be given, and full doses of opium if the pain is very severe, with absolute rest. Acute orchitis generally gets well in about ten days, but in some cases, the disease assumes a chronic form. In chronic orchitis, if arising from syphilis, the chief attention must be directed to constitutional treatment, either by small doses of mercury or full doses of iodide of potassium. Locally, inunction of mercurial ointment should be performed daily, or the testicle firmly strapped. In all cases, strapping or firm pressure is advisable to promote absorption. In cachectic patients, iron and other tonics should be given. If suppuration takes place early evacuation of the pus by incision is good practice.

LXXVII.—OSTEO-ARTHRITIS, OR RHEUMATIC ARTHRITIS.

Definition.—A chronic disease of the articular ends of bones, accompanied by considerable enlargement, usually met with in elderly or middle-aged persons. Although very commonly called chronic rheumatic arthritis, the disease is now generally admitted to be altogether distinct from rheumatism.

Symptoms.—The earliest symptoms are pain and stiffness of the affected joint, the hip and shoulder-joints being most frequently attacked. The pain is worse at night, and is aggravated in damp weather, in this point resembling rheumatism. On moving the joint, the ends of the bones give rise to a crackling sensation. Later on the joint becomes thickened, and the end of the bones considerably enlarged by bony outgrowths. In some cases, effusion takes place in the joint, and in extreme cases, through relaxation of the ligaments and filling up of the joint cavity with new bony tissue, actual dislocation takes place.

Pathology.—At first the synovial fluid in the joint becomes lessened, in some cases disappearing entirely. This gives rise to great stiffness of the joint. The inter-articular fibro-cartilage then undergoes fibrous degeneration, and if the joint is much used it disappears altogether, the ends of the bones becoming eburnated where they rub against each other. In extreme cases, the indurated end of one bone grinds away the end of its contiguous bone to a considerable extent. The ends of the bone become enlarged and flattened, and new plates of bone develop within the synovial sac around the margins of the articular facets, and in connection with the ligaments and synovial membrane. In the hip-joint, the head of the bone flattens, the neck shortens, and the cavity of the acetabulum almost dis-

appears. Around the head of the femur and the margin of the now almost obliterated acetabulum, irregular bony out-growths form. Similar changes take place in the shoulder-joint when it is the seat of disease. If the knee-joint is attacked, one or both condyles become elongated and enlarged, and the head of the tibia flattened; the patella also becomes enlarged, and in some cases, considerable effusion takes place into the joint.

Treatment.—The chief indications of treatment are to relieve pain, and maintain the general health of the patient. For the former, the iodide and bromide of potassium are recommended, although, in bad cases, opiates will be found necessary. Warm fomentations are useful, and considerable benefit may be derived from a course of warm mineral baths. The patient should be encouraged to use the joint in the early stage of the disease, to prevent, as far as possible, stiffness. In advanced cases, and when there is effusion in the joint, rest is beneficial, and the use of some mechanical appliance to encase the joint may be called for.

LXXVIII.—OSTITIS, OSTEO-MYELITIS, OR ENDOSTITIS, AND PERIOSTITIS.

Definition.—These terms are used to denote an inflammatory condition of bone and its membranes. *Ostitis*, *osteo-myelitis*, and *endostitis* are synonymous terms, and are used when the inflammation originates either in the bone or the internal membrane—endosteum—the term periostitis being used when the disease originates in, and is chiefly confined to, the periosteum or outer covering of the bone.

Varieties and Causes.—Inflammation of bone may be *acute* or *chronic*, and is generally the result of injury or exposure. Among constitutional causes, scrofula and

syphilis are the most frequent. It may also occur as a sequel of fevers or other long exhausting illnesses.

Symptoms.—In the acute form, there is intense local pain and tenderness, accompanied by general constitutional disturbance, feverishness, sleeplessness, and loss of appetite. When the disease commences in the shaft of a long bone or its endosteum there is not much local swelling, and at first, the tenderness is less marked, but after a few days these symptoms develop together with redness and œdema. When the disease commences in the periosteum, extreme tenderness is an early symptom, closely followed by swelling and redness of the skin. Any bone is liable to inflammation, but the long bones are most frequently attacked, especially those of the lower extremity. When the articular ends of bones are the seat of disease, the symptoms closely resemble those of acute rheumatism. In the *chronic* form, the symptoms are similar to, but much less severe than in, the acute variety, and there is but little constitutional disturbance. The following will assist in the differential diagnosis of endostitis and periostitis:—

Endostitis, or Ostitis.	Periostitis.
Pain diffused through the whole bone.	Pain limited to the actual seat of the inflammation.
Swelling diffused, giving rise to an appearance of general enlargement of the bone.	Swelling confined to a particular surface of the bone, and generally nodular. If syphilitic in origin, the nodes are often multiple.
Redness and swelling generally a late symptom.	Redness and swelling manifest almost from the commencement.
Tenderness to the touch absent in the early stage.	Tenderness to the touch very marked from the commencement.
Constitutional disturbance much more severe in the early stage.	Constitutional disturbance less rapid in development.

Sequelæ and Terminations.—In favourable cases of the acute form, and more frequently in chronic cases, when early and proper treatment has been adopted, the inflammatory symptoms subside, and cure results; but in the majority of acute cases, suppuration follows inflammation, with destruction of the bone by necrosis or caries. Local abscess in the bone as a result of inflammation is far from uncommon, and occurs most frequently in the cancellous structure of the articular ends of the bone. The abscess may burst into the joint cavity, and cause entire destruction of the joint.

Treatment.—In all acute cases, entire rest must be enjoined, and hot fomentations or poultices applied locally. In acute periostitis, a free incision to the bone should be made as soon as a tense and reddened condition of the skin shows that effusion is taking place. The graver results of the disease may in this manner be at times prevented. Leeches may sometimes be used with great benefit. Constitutional treatment is important, and must vary according to the nature of the case. If scrofulous, give the patient steel and cod-liver oil, or other tonics and nutritious diet; if syphilitic, give iodide of potassium in full doses. In case of abscess in the bone, the pus should be evacuated either by using the trephine or puncturing the bone with a drill. For treatment of necrosis, *vide* Aid LXXI., p. 33.

LXXIX.—OSTEO-SARCOMA.

Definition.—A tumour originating in bone, or more commonly in the periosteum, the new growth consisting of fibrous tissue and bone-elements in varying proportions.

Causes —Generally obscure.

Treatment.—Excision when the tumour is circumscribed; if of large size and involving a considerable extent of the bone, amputation may be necessary.

LXXX.—OSTEO-CHONDROMA.

Definition.—A tumour originating in bone or the periosteum, the new growth consisting of cartilage and bone-elements in varying proportions.

Causes.—Generally obscure.

Treatment.—Same as in osteo-sarcoma.

LXXXI.—OTORRHŒA.

Definition.—A disease of the ear in which the most prominent and persistent symptom is the discharge of purulent or muco-purulent fluid from the external meatus.

Causes.—Acute or chronic inflammation of the external auditory canal, disease of the middle ear, polypus, extension of exanthematous diseases to the meatus, presence of fungi, &c.

Treatment.—In the acute stage, fomentations are useful locally, and saline aperients to be given internally. If fomentations fail, leeches or a blister behind the ear should be applied. In chronic cases, the ear should be carefully syringed daily with warm water, or weak astringent lotion such as alum or tannic acid, but if the tympanum is perforated, syringing may do more harm than good by forcing the discharges into the inner parts of the ear. If otorrhœa continues for a long period, the hearing almost always becomes impaired. Cases of otorrhœa should be carefully watched,

as the disease may result in meningitis or abscess of the brain, and death ensue. The general health should be attended to. Cod liver oil and steel often do much good, especially when the patient is scrofulous or suffering from debility, the result of scarlet fever or similar disease.

LXXXII.—OZÆNA.

Definition.—A term used to designate a numerous class of cases of disease of the nasal cavities, in which the most prominent symptom is a fœtid odour from the nostrils, either with or without an offensive discharge of pus or other fluid.

Causes.—Ulceration of the mucous membrane or diseased bones, whether arising from syphilis, scrofula, injury, or other cause. Decomposition of retained secretions is a frequent cause of ozæna, but occasionally the cause cannot be ascertained. It is usually associated with a low condition of the system.

Symptoms.—These vary according to the cause. Generally the patient complains of impaired sense of smell and a feeling of obstruction in the nostrils. The mucous membrane is found, on examination with a speculum, to be congested and somewhat thickened, and perhaps ulcerated.

Treatment.—Attend to the general health either by giving steel, quinine, and cod-liver oil, or anti-syphilitic remedies if these are indicated. Locally, warm water to be used with a syringe very freely, followed by the use of lotions, containing permanganate of potash, sulphate of zinc, chloride of zinc, carbolic acid, or nitrate of silver.

LXXXIII.—PAROTITIS, OR MUMPS.

Definition.—An acute inflammatory condition of one or both parotid glands, believed to be infectious, frequently occurring as an epidemic, and most common in young persons.

Causes.—Generally obscure, unless traced to infection. Occasionally arises through extension of inflammation from neighbouring parts, or as the result of cold.

Symptoms.—After an incubation stage of from fourteen to twenty-one days, a feverish condition sets in, followed by swelling and pain in the affected gland or glands. The swelling increases gradually to a considerable size, is elastic to the touch, and causes much disfigurement. Sometimes the skin over the swelling becomes reddened, but is generally unaltered. Profuse salivation may occur, and occasionally the patient suffers from temporary deafness. The swelling begins to subside in about five or six days, and disappears entirely in two or three days more. In severe cases, the gland remains hard and somewhat swollen for a considerable time, and occasionally abscesses form in the gland. A peculiar feature in this disease is the tendency to *metastasis*, that is, a sudden disappearance of the inflammatory symptoms from one part and appearance in another. In males, the testicle is the part most frequently attacked when metastasis takes place, and in females, the ovary, or mammary gland.

Treatment.—Gentle saline aperients, careful nursing, and nourishing liquid diet are generally sufficient to effect a cure. Locally, the parts may be fomented. If suppuration of the parotid takes place, it must be treated in the usual manner. If the gland remains hard

and swollen after the subsidence of the acute symptoms, friction with oil or stimulating liniments should be employed, or iodine painted over the surface.

LXXXIV.—PARAPHIMOSIS.

Definition.—The term used to denote that condition which exists when a contracted prepuce has been drawn back over the glans, and cannot, without difficulty, be replaced.

Treatment.—The prepuce is to be restored to its natural situation as early as possible. When there is not much œdema, this may be effected without any cutting operation, but frequently the œdema and swelling are so great that it is necessary to divide the constricting preputial orifice at one or more points before reduction can be effected. To effect reduction, without cutting, the parts having been well oiled, the surgeon should hold the penis behind the constriction, between the index and middle fingers of *both* hands, and steadily endeavour to pull the prepuce forwards, at the same time pressing the glans backwards with the thumbs. After reduction, the application of lead lotion is sometimes necessary.

LXXXV.—PHIMOSIS.

Definition.—The term used to denote a long and contracted condition of the prepuce, which prevents the foreskin being drawn back over the penis.

Causes.—Usually this condition is congenital, but occasionally it arises from inflammation and contraction of the preputial orifice, or when the seat of chancre or other venereal affection.

Treatment.—In congenital cases, when the contraction is not excessive, the daily retraction of the prepuce over the glans, and subsequent replacement may suffice to effect a cure, but generally it is found in all cases that circumcision is the only satisfactory method of treatment. In some cases, when the foreskin is not very long, the "slitting" operation may be preferable to circumcision. This consists in simply passing a director into the orifice, between the glans and the prepuce, and dividing the latter with a bistoury or scissors so that the glans is freely exposed. The flaps are then turned backwards, and the outer edges of mucous membrane stitched to the skin.

LXXXVI.—PHLEBITIS.

Definition.—Inflammation of a vein.

Varieties.—*Adhesive* or *circumscribed*, and *diffuse* or *suppurative*.

Causes.—Frequently obscure. May arise from local injury or strain from over exertion in ill-nourished and cachectic persons, or in those the subject of gout. Sometimes due to blood-poisoning and extension of inflammation to the veins from adjacent parts. *Adhesive Phlebitis* often arises, there is no doubt, from the spontaneous coagulation of fibrin within the vein, which becomes deposited on its serous lining. When a clot of fibrin is thus formed, further coagula form and become deposited upon or around it, until the vein becomes completely plugged, giving rise to the condition called *Thrombosis*. Phlebitis of the femoral and iliac veins is often met with in puerperal cases, giving rise to the condition known as *phlegmasia dolens*, or "white leg."

Symptoms.—Local pains and tenderness are the first symptoms developed. Soon the vein feels hard, knotty, and enlarged, and if it is a superficial vein, the skin over its course becomes red and inflamed. There is always some constitutional disturbance which is very considerable in cases where the larger and deep veins are affected. In many cases, the affected limb becomes greatly swollen and œdematous below the affected part. In the *diffuse* variety, the swelling is very great and the inflammation, which is of an erysipelatous character, extends for a considerable distance from the vein, especially implicating the cellular tissue.

Course and Terminations.—Circumscribed phlebitis, when of a mild character, if early and properly treated, usually runs a favourable course, the circulation soon becoming re-established. But in many cases, the vein becomes obliterated, and the inflammation proceeds to suppuration, giving rise to a local or diffused abscess. When this occurs there is great danger of blood-poisoning with a fatal result, and in many cases the patient dies from exhaustion. A fatal termination is, however, by no means the only one to be anticipated; many cases of suppurative phlebitis of a severe character do recover, although not unfrequently the affected limb is permanently injured. Sudden death has been known to take place from the detachment of a clot which has been carried by the circulation to the heart and caused embolism of the pulmonary artery.

Treatment.—Rest in bed is imperatively called for. Locally, hot fomentations at first give great relief. Afterwards, the affected parts may be enveloped with lint saturated with strong lead lotion, and covered with oiled silk. The application of leeches is of doubtful benefit. Saline aperients to be given when necessary, and chloral or opium to procure sleep if the pain is

severe. Diet to be light and nutritious. In most cases of the diffuse variety, the free administration of port wine or other stimulants is imperative. If suppuration takes place, it must be treated by poulticing and early evacuation in the usual manner.

LXXXVII.—PHLEGMASIA DOLENS, OR WHITE LEG.

Definition.—A disease commonly occurring in women after child-birth, characterised by pain and swelling of one leg—rarely both being affected—and depending upon inflammation of the femoral and iliac veins.

Causes.—Much controversy has taken place as to the cause of the disease, some contending that it is due to inflammation originating in the uterine veins, and extending along the iliac and femoral veins, whilst others assert that the local condition is due to coagulation of blood in the vessels, in consequence of the introduction of morbid matter into the blood.

Symptoms.—The chief symptoms are acute pain and swelling of the affected leg and thigh, which are preceded by constitutional disturbance, such as rigors, headache, feeling of faintness, quick pulse, dry furred tongue, loss of appetite and sleeplessness. The pain is usually first felt in the inguinal region, and gradually extends downwards along the limb. The leg sometimes swells to a great size, presenting a tense glazed appearance, pitting on pressure. The femoral vein can be felt as a hard cord; slight pressure causing pain. There is an entire loss of power in the limb. The lymphatics also become inflamed, and their course may be traced by the appearance of red lines on the surface of the skin. The disease usually comes on about

the end of the first week after delivery, but may be delayed until the third or fourth week after. Coincident with the onset of the disease, the lochia is suppressed, and the flow becomes very scanty.

Terminations.—At the end of two or three weeks the pain ceases, and the swelling gradually subsides, but the limb recovers its power very slowly. A fatal result is rare, and the occurrence of abscesses, and cellular inflammation and suppuration, are less frequent than in cases of non-puerperal phlebitis.

Treatment.—The leg to be placed in such position as may be most comfortable to the patient, and kept warm by wrapping in wadding or cotton-wool, and lightly bandaged with flannel. Diet to be light and nourishing. Wine may be ordered if the patient is low or feels the necessity for stimulants. Bowels to be kept slightly relaxed. Pain should be relieved and rest procured by chloral draughts, or the hypodermic injection of morphia. If the pain is very severe, hot fomentations of poppy-heads, or belladonna leaves give great relief. Blisters have been recommended but are rarely necessary. Embrocation should never be used lest the friction detach a portion of coagulum. After the acute stage has passed, iron and quinine are the best medicines for internal use. When the patient is able to get about, great support will be found from the use of an elastic stocking reaching above the knee.

LXXXVIII.—PINGUICULÆ.

Definition.—The name given to small yellowish growths about the size of a split pea, which occasionally form beneath the ocular conjunctiva, near the margin of the cornea.

Treatment.—Should be removed, if troublesome, by making a small incision of the conjunctiva over the growth, which should then be seized with a pair of forceps and carefully dissected away with a small knife. After removal, the edges of the conjunctiva to be brought together by means of a fine suture.

LXXXIX.—POLYPUS.

Definition.—The name given to a class of tumours generally of a soft, gelatinous nature, which arise from mucous surfaces.

Varieties.—The chief varieties are :—

(*a*) Mucous, gelatinous, or fibro-cellular.
(*b*) Fibrous.
(*c*) Fibro-cystic.

Mucous and fibrous polypi are most commonly met with in the nostrils, uterus, vagina, and external auditory meatus; fibrous polypi are met with in the nostrils, uterus and rectum, and fibro-cystic in the uterus.

Mucous polypi are simply expansions of the tissues which enter into the formation of the mucous membrane. *Fibrous* polypi generally spring from the tissues beneath the mucous membrane, sometimes penetrating so deeply as to become attached to bone. The *fibro-cystic* polypus probably obtains its distinctive characteristic from the expansion of one or more of the follicles of the cervix uteri. The situations in which polypi are found are, the nose, ear, pharynx, larynx, palate, uterus, vagina, rectum, bladder, and occasionally the antrum and frontal sinuses.

Treatment.—The general and most satisfactory treatment of all kinds of polypi is early and entire

removal by means of the forceps, ligature, wire-écraseur, or galvano-cautery; although, sometimes, small mucous polypi may be destroyed by the application of caustic, or astringent powders such as alum or tannin. The special treatment of nasal, aural, and uterine polypi, will be considered under their respective headings.

XC.—POLYPUS AURI.

Characters, &c.—Polypus of the ear is not at all an uncommon affection, being met with generally in persons who have suffered from chronic inflammation of the meatus with discharge of purulent matter. Unless very small, polypi of the ear are readily detected. They are usually of a bright-red colour, highly vascular, and bleed readily when touched. In shape they are variable, being either grape-like, lobulated or ragged, and irregular. Sometimes one large polypus fills the external auditory canal, and protrudes from the meatus; at others, it will be found that the bottom of the canal is occupied by several small bright-red polypi. They may take their origin either from the sides or floor of the canal, or from the membrana tympani; and, in some cases, they doubtless spring from the cavity of the middle ear.

Symptoms.—The chief symptoms are, pain and irritation of the affected ear, tinnitus aurium, impaired hearing, discharge of purulent matter.

Treatment.—If discovered when very small, aural polypi may be destroyed by repeated applications of lunar caustic, or dry powdered alum, or tannin; but the most satisfactory treatment is removal by means of a very fine pair of forceps, or Wilde's snare. Great care is necessary in the removal of polypi which

appear to spring from the membrana tympani, or the cavity of the middle ear, lest permanent damage be done to the ossicles, and other delicate structures.

XCI.—POLYPUS NASI.

Varieties, Characters, &c.,—Polypus of the nose may be gelatinous or fibrous. Occasionally, growths of a malignant character, arising within the nasal passages, assume the polypoid form; but the term polypus, should be confined to growths of a non-malignant character. Generally one nostril only is affected, but sometimes cases are met with in which both nostrils are the seat of polypi. They are most commonly attached to the mucous membrane of the middle turbinated bone, but may spring from any other portion of the nasal cavity, although it is exceedingly rare to meet with one attached to the membrane covering the septum. The gelatinous polypus is soft, elastic, of a greyish colour, somewhat translucent, lobulated and pedunculated, and varies in size from a small grape, or less, to a date, or, in rare cases, even larger. The *fibrous* polypus is comparatively rare. It occurs at a more advanced period of life than the gelatinous variety; is firmer and more resistant, generally springs from the upper and posterior part of the nares, takes its origin from the periosteum, is more vascular, and is essentially fibrous in structure.

Symptoms.—The earliest and most prominent symptom is a sense of "stuffiness" in the affected nostril, as if suffering from severe catarrh, followed by an almost continuous thin watery discharge. As the tumour grows larger, respiration becomes somewhat impeded, the patient requiring to breathe with open mouth when asleep. The voice becomes altered, there

being a decided nasal twang, and some words cannot be pronounced distinctly. Taste and smell, in cases of the larger polypi, become impaired, and the nose assumes a broad appearance, through expansion of the nasal fossæ. The diagnosis can generally be made clear on examination with the bi-valve speculum.

Treatment.—Small gelatinous polypi may be cured occasionally by the use of tannin, or other astringent powder, in the form of snuff, or by blowing the powder into the nostril by means of a glass tube, but the most satisfactory treatment is complete abruption, by means of the forceps, noose, or écraseur.

XCII.—POLYPUS UTERI.

Varieties, Characters, &c.—Various forms of uterine polypi have been described by gynæcologists, some of which are very rare, and, perhaps, never seen in ordinary medical practice. The usual forms are:—

(*a*) The *Mucous Polypus*, which arises from the mucous lining of the uterus, generally of the cervix. It seldom exceeds the size of a cherry; is soft, red, highly vascular, and pedunculated.

(*b*) The *Fibrous Polypus*, which takes its origin from the submucous tissue, and is much firmer in texture, containing a large proportion of fibrous tissue. It grows to a much larger size than the mucous polypus, is pedunculated, the pedicle often being so long as to permit the tumour to hang down from the os uteri into the vagina.

(*c*) The *Glandular Polypus*, which arises from the cervix of the uterus, and whose structure is largely composed of hypertrophied mucous follicles of the cervix, together with mucous and fibro-cellular tissue.

(*d*) The *Fibro-cystic Polypus*, which springs from some portion of the cervix uteri, and which, when cut into, is found to contain one or more cysts. These cysts are generally due to enlargement of the mucous follicles of the cervix, although occasionally they appear to be new formations.

Symptoms.—Pain of a bearing down character, leucorrhœal discharge, and occasional hæmorrhage are the usual symptoms of polypus. The diagnosis is usually made clear by digital examination, or the use of the speculum.

Treatment.—Removal by means of the scissors, ligature, torsion forceps, or écraseur.

XCIII.—PRESBYOPIA.

Definition.—An abnormal condition of vision, commonly known as "old sight," in which the person affected can only see small objects distinctly at a greater distance than the ordinary focal length.

Causes.—This affection depends upon a failure in the accommodating power of the eye and arises from senile changes in the fibrous structure of the crystalline lens, by which its elasticity becomes more or less impaired, so that the convexity of its anterior surface is not acted upon in the usual manner by the contractile efforts of the ciliary muscle. The changes which

produce presbyopia usually take place at about the age of forty-five, although many persons retain their vision unimpaired to a later age, whilst some become markedly presbyopic considerably earlier in life.

Treatment.—The defect is easily remedied by the use of suitable convex glasses. Persons so affected, should be cautioned against straining the sight unduly, as in reading small type by artificial or insufficient light, &c.

XCIV.—PROLAPSUS RECTI.

Definition.—A relaxed condition of the mucous membrane of the rectum, often met with in children and occasionally in adults, which permits it to be protruded from the anal orifice on action of the bowels, or on taking any unusual exertion.

Causes.—This affection may be induced by all causes which keep up an irritable condition of the rectum and neighbouring parts, or necessitates undue straining at stool, such as internal piles, polypus of the rectum, ascarides, stone in the bladder, habitual constipation, prolonged fits of coughing in elderly persons when the sphincter is relaxed.

Treatment.—When the bowel protrudes, it should be restored to its natural position as speedily as possible, which can generally be done by placing the patient in the prone position, and keeping up gentle pressure on the tumour with the fingers, covered with a piece of well-oiled lint. The recumbent position should be retained as much as possible, and, in children, it is advisable that they get the bowels relieved when in that position. Gentle laxatives to be given when necessary, and all sources of irritation to be

removed. If caused by piles, polypus, worms, &c., these must be treated in the usual manner. Among curative measures the local application of cold in the form of ice, cauterisation of the mucous membrane with nitrate of silver, or nitric acid, and the injection into the rectum of astringent solutions, such as infusion of krameria, decoction of oak bark, tannic acid, and sulphate of iron. In very severe cases, it is recommended to remove a portion of the mucous membrane, either by ligature, or the clamp and cautery.

XCV.—PTERYGIUM.

Definition.—The name given to a growth of connective tissue of a reddish colour, and triangular shape, which occasionally forms on the ocular conjunctiva, the apex being directed towards the cornea.

Causes.—Uncertain. It is usually met with in sailors, or persons who have lived in the tropics.

Treatment.—The only effective treatment is by the operation of transplantation. The eyelids being kept widely open by means of a speculum, the growth must be dissected off from the cornea, commencing at its apex, but the base should not be detached. A slit is then to be made in the conjunctiva parallel with the margin of the cornea, and the apex of the growth inserted beneath the conjunctiva through the slit and kept in position by means of one or two fine stitches. The abnormal tissue gradually wastes, and finally disappears. If simply dissected away and removed it is said that the growth will most probably return; but this rarely occurs after transplantation has been properly performed.

XCVI.—PTOSIS.

Definition.—A persistent dropping of the upper eyelid.

Causes.—Occasionally occurs as a congenital defect, sometimes as a result of injury to the levator palpebræ muscle, but is most frequently due to paralysis of the third nerve.

Treatment.—In congenital cases, and in those due to injury to the muscle, a cure should be attempted by removing an elliptical portion of the skin of the lid, and if this fails the pupil should be elongated downwards. If due to paralysis, galvanism may be tried, but the chief treatment should be directed to the cause of the paralysis.

XCVII.—QUINSY, CYNANCHE TONSILLARIS, OR ACUTE TONSILLITIS.

Definition.—Acute inflammation of one or both tonsils.

Causes.—Usually arises from cold, occurring in young persons of a strumous diathesis.

Symptoms.—First sets in with a feeling of chilliness, quickly followed by high fever with stiffness of the neck and jaws. There is acute pain of the tonsils and some swelling, which rapidly increases. When both are affected the swelling may be so great that the tonsils almost touch in the middle line. There is great difficulty in swallowing, breathing is impeded, and the voice becomes thick and indistinct. In two or three days, unless resolution takes place, evidences of sup-

puration appear in the neighbourhood of the affected tonsil.

Treatment.—A saline purgative should be given at first, followed by a mixture of ammonia and bark, or steel and quinine. Locally, steam should be inhaled frequently, and linseed poultices applied to the throat externally. If suppuration takes place, it is good practice to open the abscess early, but as many patients object to the use of the knife, this should not be insisted upon unless the symptoms are very urgent, as such abscesses usually burst in a few days without the aid of operative measures.

XCVIII.—RACHITIS, OR RICKETS.

Definition.—A disease of the bones which developes in early childhood, and in which there is a deficiency of earthy salts deposited in the osseous structures.

Causes.—The disease is essentially one of malnutrition, the subjects of it being almost always children who have been neglected and badly fed in infancy. A too exclusive diet of farinaceous food, potatoes, and sopped bread, often gives rise to the development of rickets, especially in conjunction with the want of fresh air and proper exercise. The children of scrofulous or consumptive parents are strongly predisposed to rickets.

Symptoms.—The earliest symptoms are those of general and muscular debility; dentition is retarded, the anterior fontanelle and cranial sutures remain open for months beyond the time that close union usually takes place. Profuse perspiration of the scalp is very common. Often ricketty children appear to be fat, but the flesh is found to be soft and flabby. The arti-

cular ends of the long bones, especially at the wrist and ankle joints, become enlarged about the time the child should begin to walk, and if allowed to stand alone or learn to walk the bones of the leg soon become curved, in bad cases giving rise to great deformity. The femora usually bend forward, whilst the bones of the leg most frequently bend forwards and outwards. Knock-knee, flat-foot, and curved spine are very common affections of ricketty children, but these should never occur in a marked degree if proper treatment is adopted early. The chest is often deformed, the sides being flattened, and the sternum unusually prominent, giving rise to the condition known as "pigeon-breast." The ends of the ribs at their junction with the cartilages are often nodular, this condition being known as the "rachitic rose-garland."

Treatment.—Good diet and fresh air are the two first essentials in treatment. The administration of cod-liver oil, chemical food, steel and lime-water, are of great service, and some benefit may be derived from the use of salt—or sea-water baths. With a view to prevent deformity, the child should not be encouraged to stand or walk until the bones of the leg are sufficiently strong to bear the weight of the body. Unfortunately, medical or surgical aid is not sought in many cases until long after extreme deformity has taken place. In such cases attention must be directed to preventing the deformity increasing. In case of "knock-knee" or "bandy-legs" appropriate splints should be applied or steel supports worn, and in spinal curvature a proper apparatus be fitted. In extreme and persistent deformity of the bones of the leg great improvement may be effected by subcutaneous division of the bones, an operative procedure which has recently been largely practised with marked success.

XCIX.—RANULA.

Definition.—The name given to a cystic tumour containing clear glairy fluid, which occasionally forms in the floor of the mouth beneath the tongue.

Causes.—Due to obstruction of one of the mucous follicles beneath the tongue (glands of Rivini). Formerly it was believed that these cysts were the result of obstruction of one of the salivary ducts, but close investigation has proved that this is not the case. The contents of the cysts differ entirely from salivary secretion. Occasionally these cysts are congenital.

Treatment.—The most effective treatment is to cut away a portion of the cyst-wall; or a seton may be passed through the cyst. No attempt should be made to dissect away the cyst-wall. If simply punctured the cyst almost invariably refills.

C.—RETINITIS.

Definition.—Inflammation of the retina.

Varieties and Causes.—There are several varieties of retinitis, classified according to the causes. Thus:

(*a*) Simple retinitis, from injury to eyeball, exposure to sudden flashes of bright light, extension of inflammation from the choroid, iris, &c.

(*b*) Hæmorrhagic retinitis, from hæmorrhage into the substance of the retina.

(*c*) Pigmentary retinitis, from pigmentary degeneration of the retina.

(*d*) Albuminuric retinitis, arising from Bright's disease.

(*e*) Leucæmic retinitis, associated with leucocythæmia.

(*f*) Embolic retinitis, associated with and arising from plugging of the central artery.

(*g*) Syphilitic retinitis, associated with constitutional syphilis.

Symptoms.—The symptoms most commonly present are—deep-seated pain, intolerance of light, impairment of vision, and sensation as of flashes of light passing through the eyeball; but these are not always present. Retinitis may be present and vision be not sensibly impaired. The diagnostic signs can only be observed by the aid of the ophthalmoscope. These are hyperæmia of the retina, and more or less opacity, whilst occasionally there are minute extravasations of blood in the course of the distended veins. In *hæmorrhagic retinitis*, the blood extravasations are extensive and most marked around the optic disc, from which they radiate as from a centre. *Pigmentary retinitis* is characterised by numerous pigmentary deposits in the substance of the retina, which, under the microscope, have an appearance resembling bone corpuscles. Night blindness and gradual contraction of the field of vision are very constant symptoms in this form of disease. In *albuminuric retinitis*, hæmorrhage and effusion in the retina occur in the early stage, followed by fatty and fibrous degeneration of its structure, and, later on, the retina atrophies. These changes may be distinctly observed with the ophthalmoscope. At first hyperæmia, with redness of the optic disc, then a cloudy appearance of the retina, especially around the optic disc; after a time, glistening white spots make their appearance, gradually coalescing in the form of a band around the disc. Small, white, glistening spots may be observed around the yellow spot. These do not

coalesce. In the later stages of the disease, the hæmorrhagic spots and opaque patches disappear, the retina becoming atrophied. In *leucæmic retinitis*, glistening spots may also be observed in the retina, but confined to the peripheral portions. The retinal vessels have a peculiar rose colour, and there is pallor of the optic disc. *Embolic retinitis* is characterised by sudden and complete loss of sight in the affected eye without apparent cause. With the ophthalmoscope the retina is seen to be dull and opaque, while the yellow spot has a bright red appearance. In *syphilitic retinitis*, no characteristic signs are revealed by the ophthalmoscope. The diagnosis is made by observing other constitutional signs of syphilis.

Treatment.—This varies according to the cause. As a rule, the primary disease is of the first consideration as regards treatment. In simple and syphilitic retinitis, mercury is of great service. Abstraction of blood from the temples by means of leeches affords relief in simple retinitis. In all cases entire rest to both eyes must be insisted upon, and they should be protected from bright light by means of blue shades or glasses.

CI.—RODENT ULCER, OR LUPUS EXEDENS.

Definition.—A disease of an ulcerative nature, closely allied to epithelioma, which usually attacks the face or head in persons past the middle period of life.

Symptoms.—Usually begins on some part of the face as a dry wart, which, after a time, begins to ulcerate. The ulcer spreads slowly but regularly in all directions, destroying every tissue impartially as it advances. Unlike cancer, it does not spread by means of

the lymphatics, or cause secondary growths. The parts attacked never heal. In bad cases, it not only destroys the skin of the face, but the bones and cartilages of the nose, the eyelids, &c., causing frightful disfigurement.

Treatment.—If possible the disease should be removed with the knife, but if, as often happens, the case is unsuitable for excision, strong caustics or the actual or galvanic cautery must be used, care being taken to destroy all the diseased tissues. The best escharotics are chloride of zinc, potassa fusa, and acid nitrate of mercury.

CII.—SCIRRHUS, CARCINOMA FIBROSUM, OR HARD CANCER.

Definition.—A form of cancer characterised by hardness of texture and slowness of growth.

Situation.—The most common seat of this form of cancer is the female breast, but it may occur in any tissue, frequent situations being the rectum, uterus, testicle, tonsil, and the cutaneous system.

Characters.—Usually commences as a small hard nodule which at first attracts but little notice. If the breast is the seat of the disease, the tumour is, as a rule, freely movable at first, but as it increases in size the adjacent tissues become infiltrated with cancerous deposit and it becomes gradually less movable, and at length the tumour is found to be firmly attached to the bones of the chest deeply and to the skin superficially. By this time the tumour has grown to a considerable size, and the glands in the neighbourhood will probably be found to be affected, the disease having a great tendency to spread in the course of the lymphatics. After a time the skin covering the tumour becomes of a dark

colour, and sooner or later ulcerates, the surface of the ulcer sloughs and gives rise to a very offensive discharge.

Terminations.—If allowed to run its course, scirrhus usually ends in death, although in some cases the disease remains almost stationary, the patient living for several years after the first appearance of the disease. This, however, is the exception. In most cases after the ulcerative stage sets in the patient manifests constitutional symptoms, the appetite fails, there is pain and sleeplessness resulting in extreme debility and wasting. Ultimately death takes place from exhaustion, the patient previously exhibiting marked cachexia. In other cases the ulcerative process extends until some large blood-vessel is opened and death results from hæmorrhage. Sometimes the internal organs become affected with secondary cancer, death arising from the internal complication. In rare instances the primary cancer appears to be arrested in its growth before reaching the ulcerative stage, either remaining stationary or wasting gradually until the tumour becomes completely atrophied.

Pathology.—On making a section through the centre of a scirrhus cancer, the hardness of the tissue causes a grating sensation. The appearance of the cut surface varies, in some cases it has a vascular appearance, in others blood-vessels are almost entirely absent. Generally the cut surface is of a bluish-grey colour, and the centre is of stony hardness unless the degenerative process has made considerable progress, when there are numerous soft yellow spots, or small cavities containing blood or serum, dispersed throughout the tumour. On scraping the cut surface, juice of milky appearance may be collected, "cancer juice," which on microscopic

examination will be found to consist largely of cancer cells. Under the microscope a thin section exhibits a dense fibrous meshwork with minute alveoli which contains cells of an epithelial type, the fibrous element largely predominating, and to which the density of this form of cancer is due.

Treatment—Same as for cancer generally, early excision, when practicable, being the best surgical proceeding (*vide* Medullary Cancer, Aid LXV. page 26).

CIII.—SPINA BIFIDA.

Definition.—A congenital protrusion, or hernia of the membranes of the spinal cord, in consequence of arrest of development of some portion of the bones forming the spinal column, most commonly the spinal processes of the lumbar, or sacral vertebræ.

Characters.—The hernial tumour is formed in the mesial line, is globular, usually about the size of an orange, tense and elastic. At times it is covered by the whole thickness of the skin; in some cases the skin is very thin, and has a congested appearance, whilst in others the skin over the tumour is deficient, the walls of the tumour consisting only of a transparent membrane. The tumour may contain serous spinal fluid only, but generally contains also more or less of the terminal portion of the spinal cord. Often the subjects of spina bifida are hydrocephalic, and paralysis of the lower extremities is frequently present.

Diagnosis.—There is rarely any difficulty in diagnosing this affection. Given a globular congenital tumour over the spine, the probability is that it is a case of spina bifida, and the diagnosis is certain if the

tumour decreases in size and becomes lax when the child is asleep or lying down, and becomes larger and more tense when the child cries, or is held up in an erect position.

Prognosis.—Bad. Most cases terminate fatally, death generally arising from convulsions or paralysis.

Treatment.—In most cases, palliative treatment only can be adopted. The tumour should be protected against injury by a covering of cotton-wool and a well-adapted felt case, so fitted as to cause slight pressure on the tumour, with a view to prevent increase of size. Among curative measures the most promising is tapping by means of a very fine trocar and gradual evacuation of the fluid contents. Several cures by this method have been recorded. Successful cases have also resulted from tapping and injection of solution of iodine, or iodine combined with glycerine, by which inflammation of the sac is set up. Excision has been adopted, but must not be resorted to if there is any evidence of the tumour containing any portion of the spinal cord or nerve trunks.

CIV.—STAPHYLOMA.

Definition.—The term applied to an abnormal condition of the eyeball, characterised by a bulging forward of the anterior surface, or a protrusion of a portion of the contents of the eyeball through a perforation in the cornea.

Causes.—May arise from a wound or from ulceration of the cornea.

Treatment.—If only a portion of the cornea is

affected (partial staphyloma), the protruding portion may be removed, the cut edges of the cornea being brought together by fine silk suture. If the staphyloma is "total," abscission of the anterior portion of the eyeball is necessary.

CV.—VARICOCELE.

Definition.—A varicose condition of the spermatic veins, causing a swelling within the scrotum on the affected side.

Causes.—General debility, constipation, excessive venery, and masturbation in early youth.

Symptoms.—The scrotum is relaxed and pendulous, and on the affected side there is a swelling of a pyramidal shape, the base resting on the testis. When examined with the fingers, this swelling feels as if it were a bag of worms. The patient sometimes complains of dull, aching pain in the scrotum and pains of the back and loins, especially after active exercise. The left side is more frequently affected than the right, which is probably due to the spermatic veins on this side being longer than those of the right side, and because the return of blood from them is frequently obstructed through the loaded condition of the sigmoid flexure of the colon.

Treatment.—This may be palliative or curative. The palliative treatment consists in wearing a nicely-adapted suspensory bandage, frequent bathing of the scrotum with cold water, the occasional use of aperients, and the improvement of the general health by tonics, &c. In severe cases, it may be advisable to recommend the radical cure, which is

effected by subcutaneous ligature of the veins. The operation is not without danger to life, and the patient should be fully advised of this before deciding to submit to the radical cure.

CVI.—VARIX.

Definition.—A dilated and hypertrophied condition of the veins, commonly called "varicose veins."

Causes.—Generally obscure. Anything which obstructs the return of blood to the heart may cause the veins so obstructed to become varicose, such as pregnancy and abdominal tumours, which tend to produce varicose veins of the lower extremities. Hereditary predisposition, general debility, gout, and prolonged muscular exertion are also given as causes.

Characters and Symptoms.—The earliest symptom of veins becoming varicose is a dilated appearance, which at first may be confined to a limited portion of the vein. The dilatation extends along the vein in an irregular manner, giving it a knotted, tortuous appearance. The veins of the leg are most frequently affected, more especially the superficial ones, but those of any portion of the body may be so affected. Varix of the veins of the spermatic cord is called *varicocele*, and a similar condition of the veins of the rectum gives rise to *hæmorrhoids*. When varicose veins of the leg are neglected they not unfrequently become so dilated that they burst, profuse hæmorrhage taking place. After rupture of a varicose vein of the leg, the surrounding tissues often ulcerate, giving rise to what is termed a "varicose ulcer."

Treatment.—When arising from obstruction to the

circulation, the first indication of treatment is to remove if possible the cause of obstruction, but if this is not advisable or possible, palliative measures must be adopted, such as rest, gentle pressure by bandages or strapping, the judicious use of aperients, and the improvement of the general health by tonics and generous diet. In varicose veins of the leg, cold bathing and friction in an upward direction are useful. An elastic stocking should be worn, or the affected leg may be bandaged from the toes upwards. In bad cases, when all palliative measures fail, it may be advisable to attempt a radical cure, by causing obliteration of the affected veins. Various measures have been recommended for this purpose, continuous pressure, the application of caustic pastes, excision of a portion of the diseased vein, subcutaneous division, &c. But the method recommended by most surgeons is that of *acupressure*, which is a comparatively safe and generally successful operation.

[End of Part II.]